

DERWENT-ACC-NO: 1987-171307

DERWENT-WEEK: 199723

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TITLE: Pneumatic tyre - has rigid
reinforcement ring under
tread for specified natural frequency
of vibrations when running

INVENTOR: STUMPF, H

PATENT-ASSIGNEE: DEUT SEMPERIT GMBH[SEMP] , SEMPERIT
REIFEN AG[SEMP]

PRIORITY-DATA: 1985AT-0003586 (December 11, 1985)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE	
LANGUAGE		MAIN-IPC	
DE 3640222 A		June 19, 1987	N/A
003	N/A		
DE 3640222 C2		May 7, 1997	N/A
011	B60C 005/00		
AT 8503586 A		February 15, 1988	N/A
000	N/A		
CH 673014 A		January 31, 1990	N/A
000	N/A		

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
DE 3640222A	N/A	
1986DE-3640222	November 25, 1986	
DE 3640222C2	N/A	
1986DE-3640222	November 25, 1986	

INT-CL (IPC): B60C001/00, B60C005/00 , B60C009/07 ,
B60C011/00

ABSTRACTED-PUB-NO: DE 3640222A

BASIC-ABSTRACT:

A pneumatic tyre for vehicles has a belt-like reinforcement of the carcass, consisting of a ring with a circumferential rigidity for tension and compression and a radial flexural rigidity . The natural frequencies of this ring, elastically embedded by the tyre side walls, both for circumferential, radial and meridional vibrations are smaller than 50Hz.

ADVANTAGE - This tyre causes a minimum of running noise and minimizes the sound component due to the vibrations of the belt. /9

TITLE-TERMS: PNEUMATIC TYRE RIGID REINFORCED RING TREAD
SPECIFIED NATURAL
FREQUENCY VIBRATION RUN

DERWENT-CLASS: A95 Q11

CPI-CODES: A12-T01B;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 5333U

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 0009 0011 0105 0231 2215 2220 2536 2539 2624
2628 2653 3258 2826

Multipunch Codes: 014 032 04- 07- 09& 15- 308 309 41& 491
493 50& 551 560 562
566 575 595 651 654 672 699 722 723

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1987-071350

Non-CPI Secondary Accession Numbers: N1987-128598

DERWENT-ACC-NO: 2000-475465

DERWENT-WEEK: 200377

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TITLE: Vehicle tire has toroidal structure
formed by flexible structure supporting tread and rigid
assembly for attaching to hub

INVENTOR: DELFINO, A; HINC, H ; LAURENT, D

PATENT-ASSIGNEE: CONCEPTION & DEV MICHELIN SA[MICL] ,
CONCEPTION & DEV
MICHELIN[MICL], DELFINO A[DELFI], HINC H[HINCI],
LAURENT D[LAURI]

PRIORITY-DATA: 1998FR-0016175 (December 18, 1998)

PATENT-FAMILY:

PUB-NO	PAGES	PUB-DATE	
LANGUAGE		MAIN-IPC	
US 20030213541	A1	November 20, 2003	N/A
000	B60C	007/00	
WO 200037269	A1	June 29, 2000	F
043	B60C	007/16	
FR 2787388	A1	June 23, 2000	N/A
000	B60C	007/16	
AU 200019827	A	July 12, 2000	N/A
000	N/A		
BR 9907940	A	October 24, 2000	N/A
000	B60C	007/16	
EP 1056604	A1	December 6, 2000	F
000	B60C	007/16	
CN 1291142	A	April 11, 2001	N/A
000	B60C	007/16	
KR 2001040890	A	May 15, 2001	N/A
000	B60C	007/00	
JP 2002532329	W	October 2, 2002	N/A
039	B60C	007/10	
US 6640859	B1	November 4, 2003	N/A
000	B60C	007/14	

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN
 CU CZ DE DK EE ES FI
 GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
 LT LU LV MD MG MK
 MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA
 UG UZ VN YU ZW AT
 BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW
 NL OA PT SD SE SL
 SZ TZ UG ZW AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC
 NL PT SE

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
US20030213541A1	Div ex	
1999US-0466524	December 17, 1999	
US20030213541A1	N/A	
2003US-0387274	March 12, 2003	
WO 200037269A1	N/A	
1999WO-EP10130	December 20, 1999	
FR 2787388A1	N/A	
1998FR-0016175	December 18, 1998	
AU 200019827A	N/A	
2000AU-0019827	December 20, 1999	
AU 200019827A	Based on	WO 200037269
N/A		
BR 9907940A	N/A	
1999BR-0007940	December 20, 1999	
BR 9907940A	N/A	
1999WO-EP10130	December 20, 1999	
BR 9907940A	Based on	WO 200037269
N/A		
EP 1056604A1	N/A	
1999EP-0963585	December 20, 1999	
EP 1056604A1	N/A	
1999WO-EP10130	December 20, 1999	
EP 1056604A1	Based on	WO 200037269
N/A		
CN 1291142A	N/A	
1999CN-0802995	December 20, 1999	
KR2001040890A	N/A	
2000KR-0708797	August 11, 2000	
JP2002532329W	N/A	
1999WO-EP10130	December 20, 1999	
JP2002532329W	N/A	
2000JP-0589360	December 20, 1999	
JP2002532329W	Based on	WO 200037269
N/A		

US 6640859B1
1999US-0466524

N/A
December 17, 1999

INT-CL (IPC): B60C003/00, B60C003/02 , B60C005/00 ,
B60C007/00 ,
B60C007/10 , B60C007/14 , B60C007/16 , B60C009/04 ,
B60C015/02

ABSTRACTED-PUB-NO: WO 200037269A

BASIC-ABSTRACT:

NOVELTY.- Tire has a toroidal structure formed by a flexible structure supporting a tread located radially outwards of it. The structure has a rigid assembly for attaching the structure to a hub and flexible support elements built into this zone, each element has a bundle of superposed flexible pieces separated by and adhered to by an elastomeric layer.

DETAILED DESCRIPTION - Tire has a toroidal structure formed by a flexible structure supporting a tread located radially outwards of it. The structure has a rigid assembly for attaching the structure to a hub and flexible support elements built into this zone and extending out around the circumference of the structure to the tread. Each element has a bundle of superposed flexible pieces separated by and adhered to by an elastomeric layer. A radial movement of an element is transmitted circumferentially to the adjacent elements.

INDEPENDENT CLAIMS are included for: (a) The above tire where the rigid assembly is located between the side edges of the flexible structure; (b) the above tire operates when deflated; (c) a rim for supporting a tire similar to the above with two corners able to move axially relative to each other. The rim has two edges each acting as a seat for a respective corner and a shaped

section co-operating with the edges for clamping the corners to the rim; and
(d) manufacturing a tire that has a hollow flexible toroidal structure with transverse laminated support elements extending around its circumference. The structure is formed by repeatedly laying sections of ribbon on a support, curving the section and fixing its ends.

Preferred Features: The rigid assembly is equidistant from the side edges. The elements continue underneath the tread. The flexible structure is in tow parts hinged together by inextensible strands.

USE - Vehicle tires

ADVANTAGE - The tire can work reliably when deflated.

DESCRIPTION OF DRAWING(S) - The figure shows a tire.

Tread 11

Laminated elements 12

Strips 13

Rubber layers 15

Circumferential strands 16

Hinge 17

Rigid assembly 110

Inextensible strands 170a - 170d

CHOSEN-DRAWING: Dwg.1/11

TITLE-TERMS: VEHICLE TOROIDAL STRUCTURE FORMING FLEXIBLE
STRUCTURE SUPPORT

TREAD RIGID ASSEMBLE ATTACH HUB

DERWENT-CLASS: A95 Q11

CPI-CODES: A11-B17; A12-T01B;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1]

018 ; H0124*R ; H0317 ; H0328

Polymer Index [1.2]

018 ; ND01 ; K9892 ; K9416 ; K9905 ; Q9999 Q9256*R

Q9212 ; B9999

B4079 B3930 B3838 B3747 ; B9999 B4035 B3930 B3838 B3747

; K9574

K9483 ; K9676*R ; K9712 K9676 ; ND07 ; N9999 N7192

N7023 ; N9999

N6042*R ; Q9999 Q7818*R ; Q9999 Q7670

Polymer Index [1.3]

018 ; A999 A419 ; S9999 S1672 ; S9999 S1070*R

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2000-142393

Non-CPI Secondary Accession Numbers: N2000-354770

L Number	Hits	Search Text	DB	Time stamp
1	27	(152/300[ccls] or 152/301[ccls] or 152/302[ccls] or 152/303[ccls] or 152/323[ccls] or 152/325[ccls] or 152/327[ccls] or 152/328[ccls] or 152/329[ccls] or 152/516[ccls] or 156/112[ccls] or 156[113[ccls]) and shear\$5	USPAT	2003/12/12 18:10
2	13	(152/300[ccls] or 152/301[ccls] or 152/302[ccls] or 152/303[ccls] or 152/323[ccls] or 152/325[ccls] or 152/327[ccls] or 152/328[ccls] or 152/329[ccls] or 152/516[ccls] or 156/112[ccls] or 156[113[ccls]) and shear\$5	USOCR	2003/12/12 18:14
3	4	(152/300[ccls] or 152/301[ccls] or 152/302[ccls] or 152/303[ccls] or 152/323[ccls] or 152/325[ccls] or 152/327[ccls] or 152/328[ccls] or 152/329[ccls] or 152/516[ccls] or 156/112[ccls] or 156[113[ccls]) and shear\$5	US-PGPUB	2003/12/12 18:18
4	266	B60C\$(ipc] and shear\$5	DERWENT	2003/12/12 18:34
5	214	B60C\$(ipc] and shear\$5	JPO	2003/12/12 18:34

L Number	Hits	Search Text	DB	Time stamp
11	2	152/246[ccls] and shear\$5	USPAT	2003/12/12 22:37
12	0	152/246[ccls] and shear\$5	USOCR	2003/12/12 22:37
13	1	152/246[ccls] and shear\$5	US-PGPUB	2003/12/12 22:39
14	5	152/197[ccls] and shear\$5	USPAT	2003/12/12 22:39
15	0	152/197[ccls] and shear\$5	USOCR	2003/12/12 22:40
16	1	152/197[ccls] and shear\$5	US-PGPUB	2003/12/12 22:40